

REMARKS/ARGUMENTS

Claims 1 and 9 have been amended to further define the amount and characteristics of the electrically conducting particles. The value of 44% finds support in Example 7. Claims 19 and 20 find support in Examples 1-4.

Claims 1 and 9 have also been amended to incorporate the limitations of original claim 8 as supported in the specification at page 8, lines 10-21.

The remaining changes are for clarity and notably to correct the spelling of composition as identified in the Action at page 2.

A substitute Abstract is provided as noted in the Action at page 2.

No new matter is added.

The claims of this application are to a glass strand coated with an electrically conducting composition (or to a composition itself), which includes certain percentages of a film-forming agent, one or more of a plasticizing agent, surface-active agent and/or dispersing agent and from 44 to 75% of electrically conducting particles where at least 15% of the particles have a flake or needle shape, such particles are, for example, graphite or carbon black. As discussed in the specification in the paragraph bridging pages 5-6 the specific % range of film forming agents such as polyvinylpyrrolidones are chosen at that % value to impart advantageous properties. Further, as explained in the background of the application in prior electrically conducting coating compositions the amount of conducting particles was relatively low thereby achieving only low levels of electrical conductivity. Thus, the invention sought to improve the electrical conductivity by enabling the use of higher amounts of electrically conducting particles and optionally including doping agents to increase the conductivity (see page 9, starting at line 19 and pages 2-3).

In the Official Action, the Examiner has rejected Claims 1-6, 9-10, 12-13 and 15-17 under 35 USC 102(b) or Claims 7-8, 11, 14, and 18 under 35 USC 103(a) in view of U.S. 4,090,984 to Lin.

The rejection applied under 35 USC 102(b) is no longer applicable because as conceded in the Action, Lin does not describe the salient limitations of Claim 8 and those limitations have been incorporated into the independent Claims 1 and 9.

As to the contention of obviousness. First, it is noted that Lin is specifically cited and discussed in the present specification at page 2, lines 20-27. The Lin patent describes electrically conducting coating for glass fibers that includes polyacrylate emulsions, conductive carbon black dispersions as well as surfactants (see column 1, lines 31-35, column 2, lines 10-35, and column 3, lines 15-18). Example 1 also provides a composition including such polyacrylate emulsion and carbon black dispersions including a surfactant, Tergitol 15-S-12. As explained in the present specification at page 2, the specific example that Lin provides falls outside of the scope of the claims, i.e., uses much less carbon black than is required in the claims. However, Applicants acknowledge that Lin also teaches the content of carbon black in column 2, lines 31-35 in an amount of 20-40 parts per 100 parts by wt. that overlapped the originally claimed range of 20-75%.

However, Lin neither describes nor suggests the amount of claimed electrically conducting particles in an amount of at least 44% up to 75% (see Claims 1 and 9) nor in an amount of at least 50% as set forth in Claims 19 and 20. Indeed, Lin provides no motivation nor reasonable expectation for using such an increased amount when viewed for the general amounts in col. 2 and the much lower amounts he actually describes in the Examples.

Further and with respect to the limitation requiring that at least 15% of the particles have a flake or needle shape, Applicants acknowledge the Examiner's conclusion on page 6 of the Action and citation of MPEP 2144.04 but respectfully disagree because the Examiner

simply concludes that these features would have been obvious as equivalent substitutions or optimization by routine experimentation. However, absent evidence in the prior art that such shapes and the amounts of at least 15% required in the claims is something that is equivalent or would be something to optimize, the Examiner's rejections failed to establish that this limitation would have been obvious in view of Lin. See, .e.g., *In re Antonie*, 559 F.2d 618, 195 USPQ 6, 8-9 (CCPA 1977) (exceptions to rule that optimization of a result-effective variable is obvious, such as where the results of optimizing the variable are unexpectedly good or where the variable was not recognized to be result effective). See also *Ex parte Whalen*, 89 USPQ2d 1078 (Bd. Pat. App. & Int. 2008).

The presence of particles in a flake or needle shape permits to increase the electrical conductivity of the final glass strand or structure of glass strands. In the coating, the flakes and/or needles are disposed approximately parallel to the surface of the strand (the axis of the particle in its largest dimension is approximately parallel to the longitudinal axis of the strand). As the particles have large flat surfaces and may partially overlap, many contact points are created between them on one part, and the other electrically conducting particles on the other, which lead to a high electrical conductivity.

Further and with respect to the limitations of Claim 14, it should be appreciate that Lin teaches a temperature in the range of 650°F (343°C) which is substantially higher than the range defined in Claim 14. Nothing in Lin suggests such a temperature nor indicates this as a result-effective variable. *In re Antonie*.

Withdrawal of the rejections applied in the Action and a Notice of Allowance for all pending claims is requested.

Respectfully submitted,

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